

What is claimed is:

1. A method for designing a resin product for use in an event of designing a resin product to be molded by injection molding, the method comprising the steps of: determining a mold clamping force required for conducting injection molding of a resin product having a specified shape using a computer-aided optimization method; and determining the design of said resin product based on the thus obtained mold clamping force.

2. The method for designing a resin product according to Claim 1, in which a process parameter for determining an inflow of a resin material from a plurality of resin inflow conduits connecting with a cavity is used as a variable parameter for determining said mold clamping force.

3. The method for designing a resin product according to Claim 2, wherein said process parameter is a parameter which controls actions of inflow regulation valves located at said plurality of resin inflow conduits.

4. The method for designing a resin product according to Claim 3, wherein said inflow regulation valve is a valve gate.

5. The method for designing a resin product according to Claim 4, wherein said valve gate is

controlled by choosing either full opening or full closing.

5           6.     The method for designing a resin product according to Claim 4, wherein process parameters are optimized under the condition where at least one of the valve gates is opened at any spot of time during filling stage.

10           7.     The method for designing a resin product according to Claim 1, wherein resin material for molding is thermoplastic resin.

          8.     The method for designing a resin product according to Claim 1, wherein resin material for molding is polypropylene-base resin.

15           9.     The method for designing a resin product according to Claim 1, wherein resin material for molding is low flow resin.

20           10.    The method for designing a resin product according to Claim 1, wherein the material of the product is determined based on the mold clamping force determined by an optimization method.

25           11.    The method for designing a resin product according to Claim 1, wherein the thickness distribution of the product is determined based on the mold clamping force determined by an optimization method.

          12.    The method for designing a resin product

according to Claim 1, wherein the thickness distribution of the product is determined by an optimization method under constraint conditions for the mold clamping force.

5           13. A method for producing of a resin product, the method comprising a step of molding a resin product designed in the method for designing a resin product according to Claim 1 through injection molding under an optimized condition.

10           14. An injection molding device comprising:

          a molding device main body which feeds a molten resin to a mold having a plurality of resin inflow conduits to a cavity therethrough;

          a memory section which memorizes molding parameters determined by a computer-aided optimization method; and

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          a control section which conducts injection molding while controlling said molding device main body based on molding parameters corresponding to a predetermined mold clamping force.

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